causâ cessat effectus." Even a healthy spleen may be reduced in size by large doses of quinine; the alkaloid vigorously checking the oxidation of its principal elements, the colourless corpuscles. Quinine has no direct influence on the vasomotor nerves.

8. Quinine attacks the malarial poison with especial energy; on this fact depends the so-called specific action of quinine in intermittent fevers. The same relation, but in a minor degree, subsists between quinine and the infective poison of enteric fever, between mercury and iodine and the poison of syphilis, between salicylic acid and the "irritant" in acute articular rheumatism.

9. An antipyretic which, in one disease, instantaneously arrests the fever, may be wholly powerless in another. The difference depends on the fact that the various anti-zymotics act very unequally on the individual *schizomycetes* and ferments; one will paralyze them rapidly, by another they will hardly be affected.

10. The past history of therapeutics, and recent achievements in the domain of etiology and pharmacology, entitle us to assume that by persistent scientific inquiry and practical observation, we may succeed in discovering a specific antidote for every species of infective or septicæmic malady.

Prof. FOKKER, of Groningen, held that, while there is no great difficulty in understanding the mode of action of simple refrigeration in the treatment of pyrexia, that of antipyretic remedies, administered internally, is still obscure. We must assume, either that they lower the temperature of the body by interfering with the circulation, or that they exert a destructive action, in virtue of their antiseptic properties, on the humble organisms to which the pyrexial phenomena are presumably due. The second of these hypotheses is the more likely one of the two. It may, of course, be objected that such remedies can never be administered in sufficient quantity to insure their presence in the blood in such proportions as to render it aseptic, or, at any rate, to exercise an antiseptic influence. But it must not be forgotten that the organisms in question have to maintain a "struggle for life" in the interior of the body; so that any hostile factor, though unable of itself to check their multiplication, may succeed in doing so when combined with others equally hostile to bacterial life. It is quite possible, moreover, that antipyretic medicines may accumulate in particular organs, which may then exert a disinfectant influence upon the blood.

Antipyretic remedies may legitimately be given in febrile maladies, when the heat of the body is such as to directly threaten the patient's life, or even the integrity of his tissues. Under such circumstances, those aromatic remedies which are, at the same time, bacterial poisons, should be preferred to physical methods of refrigeration. But when the temperature of the body does not rise to a dangerous height, the employment of such remedies in antipyretic doses is undesirable; since we have experimental evidence to show that a degree of heat only a little above the normal temperature of the body is injurious to the vitality or the virulence of the pathogenic organisms. It is quite possible, indeed, that the febrile heat may be one way in which the system reacts against these organisms, and tends towards recovery. In all cases, therefore, when the temperature does not rise so high as to be of itself a source of danger, physical refrigeration should be avoided, and the antipyretic remedies, whose twofold mode of action has been alluded to above, should only be prescribed in relatively small doses, such as are inadequate to reduce the heat of the body.

Utility of Strychnia as an Expectorant.

The experiments of Prokop Rokitanski have shown that strychnia is a powerful stimulant of the respiratory centres. Dr. MILNER FOTHERGILL, in a paper read at the London Congress, stated that, without acquaintance with his experiments, he arrived, independently, at the same conclusions, from experiments upon rabbits. When the respiratory centre was paralyzed by aconite, the injection of strychnia exercised a most potent influence in restoring the respiration. Clinical observation corroborates this view; and, at the Hospital for Diseases of the Chest, he has found strychnia most useful when the respiration was embarrassed. In acute bronchitis, when the act of expectoration is difficult, it is useful. In chronic bronchitis and emphysema it relieves the labouring respiration, and, when the right ventricle is dilated, adds to the efficacy of digitalis most usefully. In lung consolidation it is also of service; indeed, in all cases where the number of respirations mounts over the ordinary proportion to the beats of the heart (about four to one), it has seemed to me to be of the greatest utility.

MEDICINE.

Typhoid Fever considered as Fecal Intoxication.

Dr. JULES GUÉRIN, of Paris, read a paper on this subject at the London Congress, of which the following is an abstract:—

For a long time the deposits of human excrement were considered to be susceptible to contribute to the development of typhoid fever. This opinion, expressed with a certain character of generality, and, besides, deprived of any serious demonstration, had remained in conflict with all opinions of the same kind. Up to what point was it founded? In what measure, under what form, in what conditions, could the fecal excretions have a share in producing typhoid fever? In order to elucidate, if not to solve, these various questions, the author of this work has given himself up to experiments on animals, and to clinical researches, which have led him to the following conclusions:—

1. The specifie diarrhœic matter of those affected with enteric fever, contains at its exit from the body toxic elements resulting from the fermentation of fecal matters, retained and accumulated at the end of the small intestine, behind the ileo-cœcal valve.

2. The organic lesions, considered heretofore as specific signs of typhoid fever, congestion, ulceration of the mucous membrane, alterations of the glands of Brunner, Peyer's patches, and mesenteric glands, are effects of the virulent and ulcerative action of typhoid matters on these parts; and the functional troubles, or general symptoms of the illness, are at the same time the result of the penetration of these same matters into the organism, and of the organic changes which they determine.

3. The complications which present themselves in the course of typhoid fever, under the form of meningitis, pleurisy, pneumonia, and other marked affections, are only more distinct localizations of its poisonous principle, just as those illnesses which begin at the outset with typhoid symptoms, are in themselves nothing but primitive effects of fecal poisoning.

4. Typhoid poison engendered by fecal fermentations, spreads itself incessantly abroad by all the excretory ways of the body, from whence the transmissibility of the illness, and the formation of seats of infection, susceptible of reproducing it in an endemic and epidemic form.

Every one of these propositions has been the object of experiments, and of clinical and anatomo-pathological observations, stated in three memoirs read before the Academy of Science and Medicine in Paris, in the years 1877 and 1878, with proofs to the point. The author will reproduce both before the Fourth